SENIOR CITIZENS HOUSING

AN ANALYSIS OF PROCUREMENT TECHNIQUES

A REPORT TO THE

MINISTRY OF LANDS, PARKS AND HOUSING

Prepared by
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SENIOR CITIZENS HOUSING - AN ANALYSIS OF PROCUREMENT TECHNIQUES

CHAPTER 1 INTRODUCTION

1.1 PURPOSE OF STUDY

For many years, senior citizen housing in British Columbia was designed, built, owned and managed by the Federal or Provincial Government. Many observers felt that this was not the most effective means of developing and managing housing. As a result, today, non-profit Societies have assumed the responsibility for developing senior citizens housing, overseeing the design, construction and ongoing management. The Provincial Government, through the Ministry of Lands, Parks and Housing (LPH), has taken the lead role, on behalf of the Federal and Provincial Governments, in providing assistance to the Societies for identifying sites, carrying out design and construction, and setting in place the necessary management arrangements. In addition, the Province has shared with Canada Mortgage and Housing Corporation the cost of construction and operation of these facilities through capital grants and ongoing operating subsidies to assist those in need.

Until recently, projects were developed through a traditional process of design and public tender. The non-profit Society engaged an architect who in turn prepared plans and specifications suitable for public tendering. However, in the past two years, the Province has been encouraging Societies to utilize alternative procurement techniques, suited to the particular circumstance and situation. As a result, a number of projects have been developed by non-profit Societies through proposal calls for units on lands owned by the Society or Provicial Government, or on developer owned sites.

The purpose of the study is to provide a comparative analysis of 16 projects developed through various procurement techniques over the past two years. This study compares project and administrative costs; design and construction quality; ease and speed of delivery; quality control; and risks to the Ministry; sponsors, builders, and architects.

The study also examines the experiences of other agencies involved in the delivery of social housing in B.C., and other parts of Canada. It examines some of the procurement techniques employed by the private sector and discusses their applicability to non-profit seniors' housing. The study also describes and evaluates the process which has been used to evaluate the various submissions received in response to proposal calls, and sets out a framework for the evaluation of future proposal call bids.

It is hoped that the conclusions from the study will serve as the basis for improvements to the various procurement technique procedures and result in the ongoing development of cost effective projects which represent value for money spent.

1.2 SENIOR CITIZENS PROJECTS INCLUDED IN THE STUDY

Society/Location	Procurement Technique	No. of Units	Building Type
1. Roche View Lodge Society New Hazelton	P.C.-Bldg.	10	1 storey frame apartment
2. Phelan S.C. Hsg. Society Merritt	P.C.-Bldg.	20	1 storey frame apartment
3. Penticton Sen. & Vet. Hsg. & Rec. Soc., Penticton	Tender	98	6 storey concrete apartment
4. Shuswap Housing Society Salmon Arm	P.C.-Bldg. (extension)	20	cottage units
5. Parksville Lions S.C. Soc. Parksville	P.C. L & B	23	cottage units
6. S. Vanc. Isl. Zone Hsg. Soc. Saanich	P.C.-Bldg. (extension)	12	2 storey frame (motel-type)
7. Victoria S.C. Hsg. Soc. Colwood	P.C. L & B	50	3 storey & bsmt. frame apartment
8. Saltspring Soc. Sen. Accom. Ganges	P.C.-Bldg.	20	cottage units
9. Ukrainian Hsg. Soc. (Ivan Franko), Richmond	P.C.-Bldg.	45	3 storey frame apartment
10. Barry Lin Chin Foundation Vancouver	Tender	71	6 storey concrete apartment
11. Chi-Shaun Hsg. Soc. Vancouver	Tender	78	8 storey concrete apartment
12. Vanc. Chinatown Hsg. Soc. Vancouver	Tender (extension)	18	3 storey bsmt. frame apartment.
13. Langley Lions S.C. Hsg. Soc. Langley	P.C. L & B	104	3 storey & bsmt. frame apartment
14. Marysville Hsg. Soc. Marysville	P.C.-Bldg.	35	1 storey frame apartment
15. Kaslo & Dist. S.C. Shelt. Soc. Kaslo	Tender	10	1 storey frame apartment
16. Revelstoke Rotary Hsg. Soc. Revelstoke	Tender	25	1 storey frame apt. plus bsmt.

1.3 METHODOLOGY

Initially, meetings were held with LPH officials to review and identify specific policies and objectives of the senior citizens housing program. This in turn allowed the consultants to identify critical policy considerations as a basis for establishing future evaluation criteria; and to review administrative, approval, and control procedures within LPH with particular reference to the program manual and Sponsor's Handbook, which is provided to each sponsoring Society.

All but one project site was visited by members of the project team. In addition, the consultant reviewed project files and the plans and specifications for each project. Interviews were held with many of the architects, builders, municipal officials, residents, and some managers of the various projects. A summary report was prepared for each project, setting out locational attributes, market forces at the time of project tendering, quality of construction finishes, local management involvement. A summary of these is included in the appendices.

While on location, the consultant collected additional background information to serve as the basis for comparing costs, delivery techniques, local construction practices, and local planning considerations. Meetings and discussions also took place with officials of the British Columbia Housing Management Commission (BCHMC), Canada Mortgage and Housing Corporation (CMHC), the Architectural Institute of British Columbia (AIBC), and members of the Canadian Home Builders Association (CHBA), and Urban Development Institute (UDI).

Projects were analyzed and compared in terms of cost; design effectiveness and quality.

A review was also carried out of the experiences of other agencies involved with senior citizen housing. Meetings were held with officials of the Alberta Housing Corporation and the Ontario Housing Corporation, as well as

the Capital Region District Housing Corporation and the Greater Vancouver Housing Corporation. Some of the experiences of these agencies are set out in Chapter 4.

Based on discussions with some of the builders and professionals involved with the program, and the experiences of the various team members, consideration was given to alternative procedures used in the private sector, and their application to the senior citizen housing program. This is discussed in Chapter 5.

From the various files, and discussions with members of the Society, consulting professionals, and builders, a review was carried out of the evaluation procedures which were followed for each of the proposal calls. Based on this review, a proposed framework for evaluation was developed and described in Chapter 6.

Based on the overall findings, a number of observations with regard to the appropriateness of different procurement techniques is set out in Chapter 7. Specifically, consideration is given to when proposal calls are appropriate, the types of proposal calls which might be used, as well as general guidelines relating to the selection of the appropriate procurement technique for each particular situation.

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CHAPTER 2 BACKGROUND

2.1 THE HOUSING PROGRAM AND AGENCY ROLES

The Senior Citizens Housing Construction Program is a joint Federal and Provincial program, with the Province taking the lead role in delivering the housing units through the auspices of non-profit societies.

Since 1979, after the signing of the Global Funding and Low Income Housing Operating (Senior Citizen) Agreement, the administration procedures of both the provincial and federal governments were disentangled. The Province now takes the lead role in initiating and delivering the projects, and the Federal administration is involved in insuring the mortgage, with financial contributions to operating costs.

Projects are funded in the following manner:

1. Capital Funds. 25% of the capital cost results from Provincial grants, and/or Provincial site purchase, and/or Society equity. The balance of 75% is provided through an insured private lender mortgage at market rates.

2. Operating Costs. Funds for operations are provided initially by rent from tenants, on the basis of 30% of income. The balance is made up from Federal Assistance for operating payments, under Section 56.1 NHA, and Provincial Rental Assistance Program (PRAP) payments to ensure that tenants only pay 30% of income for rent.

The PRAP is administered by the British Columbia Housing Management Commission. When the total of the Provincial contributions to a project equate with the Federal contributions, any additional rent supplement is cost shared with CMHC under Section 44(1)(b) NHA.

The roles of the various agencies and societies involved are as follows:

1. Sponsoring Societies. Non-profit societies are the initiators, managers and owners of the projects constructed under the program. The Society's role is to determine and document the need for the housing, and to provide information required to secure Provincial and Federal approval and commitments. The societies, working with LPH, and using the Ministry Handbook and Guidelines, determine the design program, and arrange for all necessary consulting services. The Society directly contract for construction, or design and construction, and secure the necessary private financing. The Society is responsible for tenant selection and ongoing management of the project with the assistance of BCHMC.

2. Federal Government. Through CMHC, the Federal Government is responsible for providing NHA insurance of the 75% capital mortgage, and providing operating assistance through Sections 56.1 and 44(1)(b) NHA. CMHC, in cooperation with LPH, establish MUP's by project type and location, as a guide to establishing project budgets. Under the terms of disentangelment, CMHC do not get involved in any plan review or inspections.

3. LPH. The role of the Ministry is to review and assess the need for housing, to approve projects to proceed within overall budget guidelines, to set out all details of program administration, to acquire sites if necessary, and to provide funding assistance by way of grants and operating funds. At the Regional level, LPH is responsible for guiding the Society in all activities related to its role, and to monitor and review all aspects of project development. LPH is totally responsible for project development, budgetary control, and administration of the projects.

4. BCHMC. BCHMC will review proposed plans when requested to do so by LPH. Prior to completion of projects, BCHMC provide guidance to the Societies for management and operations, including assistance with tenant selection, budgets, rents. BCHMC also administer the Federal and Provincial Assistance Programs.

SUMMARY

Projects are sponsored, owned and operated by non-profit Societies. The Province determines which projects will proceed, and through Regional offices, monitors, reviews and advise the Societies to ensure that correct procedures and guidelines are being followed. CMHC is not involved in the delivery system and has no involvement in plan approval or inspections. The responsibility for construction and compliance rests with the Society, always with reference to LPH.

2.2 PROCUREMENT TECHNIQUES: DESIGN TENDER, LAND BUILDING PROPOSAL CALL, BUILDING PROPOSAL CALL

Essentially, three different procurement techniques were employed for the sixteen projects studied. Six of the projects were developed by means of a traditional tender procedure. An architect was engaged by the Society to prepare full working drawings and specifications. Public tenders were called following generally accepted construction industry practice. In all cases, the low bidders were awarded the contract with no modification of bids or pre-award negotiations, with the exception of one project which came in over budget.

With proposal calls, in three instances, proposals were called for both land and building submissions. One of the three calls utilized a two-stage call in which undesirable site locations were eliminated during a pre-qualification stage. In one other instance, the sponsoring Society did notify prospective proponents verbally of unacceptable sites, and in the other situation, only a limited number of sites were available in the community.

The seven other proposal calls were carried out on an open basis. There was no pre-qualification, except in one case, and the number of bidders ranged from four to seventeen. There were no standard proposal call documents. Each Society prepared its own call with assistance from various architects, quantity surveyors, and other professionals. Procedures varied considerably with respect to the bid opening, evaluation, and subsequent contract award. On one occasion, proponents were permitted to be present at the bid opening. In another instance, a rebid was requested from two selected proponents based on a redesign, and both proponents were present. In some instances, proponents were notified of the base bid of all proposals shortly after proposals were opened, but prior to an award. In the majority of cases, proponents were not notified of other bids until after the award.

In most instances, the Societies carried out a fairly detailed evaluation procedure utilizing evaluation matrices with pre-assigned weightings for specific aspects of the design and cost. The matrices varied widely in their composition and weightings, taking into account design features, cost and materials analysis, life cycle costs, conformity with guidelines, and builder ability. Most matrices included cost as a component factor, but assigned a relatively low overall weighting to it. However, in seven of the ten proposal calls, the low bid was subsequently accepted. Details of the evaluation procedures, and selection and process are described in more detail in Chapter 6.

In the majority of instances, a reasonable set of proposal call documents was prepared. Specifications were often sufficiently generic to permit good competitive results, performance rather than prescriptive standards were set out, and the evaluation criteria were also set out. In other situations, the specification documents did not differ from that of a more conventional tendered project. In fact, in one instance, the documents were a modified version of a detailed specification prepared for a previously tendered project. In a number of situations, the general conditions did not acknowledge the distinction between a traditional tender and proposal call. In only one instance were any guideline plans prepared by the sponsoring Society. In all other instances, it was up to the proponent to prepare the overall site plan and project design. As previously noted, there was some variation in the bid review and award procedures, and the contract documents used. This is described in more detail in Chapter 3.3.

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CHAPTER 3 COMPARISONS AND ANALYSIS

3.1 COST ANALYSIS

Project costs for completed projects, and project budgets for incomplete projects were analyzed in some detail in a number of different ways to compare the various types of projects. The cost per unit was calculated in order to see how it compared with the maximum unit price (MUP). However, since land costs, off-site servicing costs, and development cost charges vary considerably throughout the province, these land component costs were extracted from the total costs to arrive at an all-in building cost per square foot. The all-in cost includes construction, consultant fees, financing, permits, and other similar costs and is the general yardstick used by CMHC, and the development industry, to measure development costs. As a rule, all-in costs are calculated on a gross square foot basis; that is the total cost excluding land and related elements, divided by the total square footage excluding the area of any basement or parking garage. The all-in cost on a gross square foot (gsf) basis is included for each project.

There was some considerable variation in the net to gross efficiency of the different projects. Given that this efficiency factor is often a further indicator of the cost efficiency of a project, the all-in costs on a net square foot (nsf) basis (area of building contained within living units only) were calculated to reveal the actual cost per leasable square foot. This is comparable to a developer's calculation of cost in terms of saleable or leasable square footage.

It is interesting to note that for each project a contingency was set out as a part of the original budget. In practice, the contingency was not expended to any great extent. Therefore, for comparison purposes, where projects are incomplete, the budget costs have been adjusted downward in anticipation that the contingency for these projects will not be spent.

3.1.1 COST PER UNIT IN RELATION TO MAXIMUM UNIT PRICE (MUP)

Although the Provincial Seniors Housing Program is disentangled from CMHC, project budgets and costs must not exceed maximum unit prices which are established by CMHC. The MUP is based on design specifications similar to those called for in the program, for various building types, utilizing appraisals and current pricing, comparable market construction data, and recent experience. MUP The varies regionally by sub-market to reflect local conditions. In some areas the MUP could be regarded as a reasonable benchmark for what a unit of a certain size and design quality should cost. On the other hand, in other regions, particularly the interior, the MUP has been prepared with very limited data, by less experienced field personnel. CMHC openly recognizes the need to revise the process for establishing MUP's.

From the analysis of total unit cost to the prior established MUP's, the cost of tendered projects was generally 85% to 95% of the MUP. In the case of proposal calls, the tendency was for the cost to be significantly under the MUP's, with most falling in the 60-75% range. Although there is some variation in the type of projects which were tendered, as compared to the proposal calls, as a general comment, it would appear that tendered projects were designed to a construction budget derived from the MUP's, whereas the cost of proposal call projects reflected the competitiveness of the construction and development industry given certain specified design and construction standards.

The MUP includes both a land and building portion. Although all completed projects came in within the MUP, it would appear that in a number of instances, the land price threshold was often limited, and resulted in unsuitable locations being chosen in some instances. Given the importance of the MUP in terms of establishing budgets in the past, there is a need to review the appropriateness of the MUP as the basis for establishing project cost both in terms of the total cost per unit, and the split between land and building. As a general conclusion however, it is quite apparent that in the case of tendered projects, costs were very close to the MUP. In the case of proposal calls, costs were often considerably less.

3.1.2 COST PER SQUARE FOOT

As previously noted, project types varied from single level detached cottage units, to midrise concrete structures. As a result, one would expect some variation in the cost per square foot, both on a net and gross basis. In fact, the proposal call projects (all frame) range in cost between $48.89 and $62.07 per gross square foot, and the tendered projects ranged between $61.59 and $75.20 per gross square foot (frame) and between $64.97 and $84.24 per gross square foot (concrete midrise).

On a net basis, the cost variation was even more noticeable with the proposal call projects varying between $55.15 and $84.43 per square foot, and the tendered projects ranging between $87.89 and $132.87 per net square foot.

Given that three of the six tendered projects were concrete, it is not reasonable to compare these costs with those of lowrise woodframe buildings. However, where the cost comparison is made between similar building forms in similar locations, it is apparent that the costs of tendered projects are generally higher than those of proposal call projects. This is set out in more detail in the following table:

PROJECT	TOTAL COST	TOTAL COST PER UNIT	ALL-IN COST	ALL-IN COST/UNIT	ALL-IN COST /G.S.F.	ALL-IN COST /N.S.F.
PROPOSAL CALLS	$	$	$	$	$	$
New Hazelton	437,000	43,730	405,000	40,530	62.07	84.43
Merritt	809,000	40,450	721,000	36,050	49.66	74.02
Salmon Arm	643,000	32,150	546,000	27,300	50.84	55.15
Parksville	926,000	40,250	786,000	34,189	53.60	58.02
Saanich	423,000	35,250	369,000	30,750	51.25	60.53
Colwood	2,098,000	41,970	1,646,000	32,930	49.37	70.87
Ganges	915,000	45,750	780,000	39,000	60.21	74.00
Richmond	1,760,000	39,100	1,350,000	30,000	49.42	62.24
Langley	3,870,000	37,210	2,961,000	28,470	48.89	59.69
Marysville	1,198,000	34,230	1,132,000	32,340	52.76	65.96
TENDER CALLS						
Penticton	5,460,000	55,770	5,164,000	52,690	64.97	112.83
Harry Lin Chin	4,262,000	60,030	3,834,000	54,000	75.31	132.87
Chi Shaun	5,022,000	64,390	4,562,000	58,490	84.24	130.26
Chinatown	776,000	43,130	691,000	38,410	61.59	87.89
Kaslo	520,000	51,980	450,000	44,980	69.09	90.50
Revelstoke	1,330,000	53,200	1,266,000	50,640	72.20	96.44

3.1.3 MARKET COMPARABLE COSTS

In addition to the cost comparisons between projects, an analysis was carried out to compare the actual costs, with the costs of projects carried out by the private sector. Although some cost information was available for concrete structures in Vancouver, and woodframe apartments in Richmond and Langley, unfortunately in the slow building period of 1983/84, few actual comparables were available, particularly for smaller communities. As a result, CMHC appraisers were provided with typical detailed specifications similar to those used for the Senior Citizens Housing Program. The appraisers were requested to calculate all-in cost based on the specifications, with appropriate modifying factors for location and time of construction. In other words, land costs were not included. Additional adjustments were made where appropriate for lower parking ratios, and the other features unique to senior citizens housing. These CMHC appraised costs were then compared with the actual costs of both tender and proposal call projects to obtain an "actual to market" comparison. The results are summarized below:

Single Storey Double Loaded Corridor - Frame

1. Proposal Call, New Hazelton

   CMHC calculated that the all-in cost of a 10 unit project comprised of approximately 6,530 gsf. adjusted for time and location should be $401,000. In fact, the costs were $405,300 or 1.07% over the CMHC appraised cost.

2. Tender, Kaslo

   CMHC calculated that the all-in cost for a 10 unit project of 6,530 gsf. adjusted for time and location should cost $373,000. In fact, the actual project, consisting of 10 units and 6,510 gsf., was $449,800 or 20.6% over the CMHC appraisal.

3. Proposal Call, Merritt

Using similar yardsticks, CMHC calculated that a 20 unit project would comprise 13,060 gsf., and adjusted for time and location should cost $700,000. Although the Merritt project consisted of 20 units, the actual area was 14,560 gsf. or 11% more. The all-in costs were $732,700, or 4.6% over the CMHC value.

In summary, the two proposal call projects came in relatively close to the CMHC appraisal for "market" housing; whereas the tendered project was significantly higher, even though the quality and design was essentially the same as the other two projects.

Three Storey Plus Basement - Frame

4. Proposal Call, Langley

There were a number of MURB and CRISP rental projects in Langley to serve as the basis for CMHC's comparison. Adjusting for the smaller units, CMHC calculated that a 104 unit project would comprise 61,500 gsf. with an all-in cost of $2,985,000 adjusted for time. In fact, the Langley project consisted of 104 units comprising 60,600 gsf. and an all-in cost of $2,961,000, which is approximately 1% below appraisal.

5. Proposal Call, Colwood

Based on other activity, CMHC calculated that this 50 unit project should cost $1,538,000 or $49.01/gsf. adjusted for time. In fact, the project came in at $1,646,000 or $49.35/gsf., which is 1% over the CMHC estimate.

In summary, both proposal call projects of this type came in with all-in costs extremely close to the adjusted CMHC appraised costs. This would seem to confirm, along with the previous projects, that the proposal calls were relatively close to what might be considered market prices.

Midrise - Concrete

6. Penticton, Tender Call, 98 Units

CMHC had no comparable information for a concrete building. However, using the various Vancouver prices, adjusted for time and location, and including the actual cost of piling, they estimated a cost of $4,083,000, or $66.40/gsf. In fact, the completed project came in at $5,164,000, or $64.97/gsf. Although the gsf. cost is slightly less than that calculated by CMHC, the actual all-in costs were 26% higher than those calculated by CMHC, as a result of the relatively inefficient floor plan.

Given that there were no other concrete midrises in Penticton, and given that the site was in a neighbourhood of 3 storey apartment buildings, and was of sufficient size to accommodate 98 units in a 3 storey building, an analysis was carried out to cost the same number of units in a 3 storey woodframe structure. CMHC calculated the cost of this building at $3,027,000, or $49.30/gsf. In terms of all-in cost, 59% of the actual total cost of the highrise construction. Although there is no doubt that the building which was constructed represents greater value than a 3 storey woodframe building, one can not ignore the fact that the building did cost approximately $2,000,000 more than 98 units need have cost on the same site had a different building form been selected.

7. Harry Lin Chin, Tender, 71 Units (predominantly bachelor)

CMHC calculated the cost on the basis of a 75% efficiency factor. Making allowances for time, and the underground parking costs, CMHC calculated a building cost of $2,668,000 or $69.35/gsf. In fact, the project only achieved a 58% net to gross efficiency factor resulting in all-in costs of $3,834,000 or $75.31/gsf. In terms of all-in cost, the actual project is 44% greater than calculated by CMHC. In terms of cost per square foot, the project budget is 9% greater than that calculated by CMHC.

7. Chi-Shaun, Tender, 78 Units

Using similar yardsticks to the previous project, CMHC calculated an all-in cost of $3,145,000 or $67.35/gsf., based on a 75% net to gross efficiency. In fact, the all-in budget for the project is $4,652,000 or $84.24/gsf. which represents a 45% increase in terms of all-in cost or an increase of 25% in terms of cost per square foot.

Both of these projects were developed with efficiency factors which are less than what one would normally expect. As a result, both projects came in at a substantial premium over the appraised value for a modest, efficient project. This is in part a reflection of added design features and costs peculiar to their respective locations, namely the Chinatown Heritage District and the Wooodwards Shopping Center. However, it should be noted that both projects attempted to achieve a certain unit count, at the expense of building efficiency. A brief development feasibility analysis indicated that by reducing the number of units, one could have increased the overall efficiency, and even allowing for the higher land component per unit, the actual end cost per unit could have been less.

In summary, all proposal call project costs are generally consistent with CMHC's calculations for modest market housing. The four tendered projects examined were significantly higher than the costs calculated by CMHC.

3.1.4 CHANGE ORDERS

The number and type of change orders in any project is often considered a good indicator of the completeness and appropriateness of the specifications and working drawings. Change orders were therefore analyzed to see whether there was any significant variation between proposal call and tendered projects.

A detailed review of all change orders was carried out. Although tendered projects generally had more change orders than the proposal call projects, the majority of these were of a minor nature, generally items missed by the design consultants during the design and working drawing stages.

In the majority of proposal calls, these types of changes did not usually show up. The proponent contracted to deliver a product based on his design, to meet building codes and the proposed specifications, and the contractors appeared to recognize their obligation to provide a functioning product within the contract price. Three projects had only one or two change orders. This also indicated that the Society was not upgrading or introducing changes during construction, and that LPH were not allowing any changes to occur.

In a number of other projects, there were a number of changes generally initiated by the Society to bring the proposal up to what they regarded as an acceptable level. This included such items as outlets for wallclocks in kitchens, baseboard moldings, wall trim in amenity areas, and fireplaces in the common areas.

Two projects exhibited excessive change orders, both pre-contract and during construction. In one case, the changes were requested by the Society, often for quality upgrading and aesthetic purposes. In the other instance, the changes resulted from the contractor's failing to meet the initial proposal call requirements. Most of the changes were made prior to the start of construction. In fact, in all proposal calls, without exception, the selected proposals were modified prior to the final contract being executed. In all cases this did result in some cost adjustment, both upwards and downwards. The pre-contract changes were often design modifications to improve the unit or building layout, and other changes required to bring the proposal up to a standard acceptable to the Society. Examples of such upgrading included: adding gypcrete to the floors for soundproofing, anti-scald devices on showers, additional storage space, landscape sprinkler systems, and car plug-ins.

The change order review also indicated, in the case of one proposal call, that a number of changes were made without change orders, and without the approval of LPH, but at no net change to the contract amount. In the case of one tendered project, a number of changes were made using credits from unexpended cash allowances as a form of contingency fund.

As a general comment, given the considerable variation in the degree of specificity of the proposal call documents, it is not surprising that there were considerable pre-contract negotiations and adjustments. On the other hand, it is positive to note that there were relatively few change orders for the majority of projects once the contracts had been signed.

3.1.5 CASH ALLOWANCES

The experience with cash allowances varied considerably, with no clear distinction between proposal calls and tendered projects. Cash allowances (or prime contract sums) were of two types; those dealing with indeterminate items such as hydro connection charges, municipal off-site servicing, provision for material testing; and the second group for material items such as carpets, hardware, drapes, appliances and landscaping.

The need for cash allowances for indeterminate items can be well documented, as these are usually monopolistic fixed prices out of the control of the bidder or proponent. Cash allowances for material items can provide additional choice for the Society. However, certain choices (e.g. colour) can be achieved within a fixed bid price, and specifications should take care of most of these items. No problems were reported by those projects where carpets and appliances, for example, were included within the main contract price, rather than as a cash allowance.

In the case of some proposal calls, a landscape cash allowance was included in order to signal to proponents, the range and extent of the landscaping required. This was considered appropriate.

The number of cash allowances varied from one to sixteen items per project with no clear pattern in the choice of items. This varied with the particular circumstances of the project, Society requirements, and architect or advisor preference. Furthermore, in some cases, certain items were not included within the contract or as cash allowances at all, but were handled directly by the Society. These included appliances, drapes and landscaping, particularly for additions to existing projects where the Society wished to use comparable products to those existing. In other cases, cash allowances were handled independently and directly by the Society, although included in the contract.

The value of cash allowances for individual items also varied. One example is appliances, with a budget range from $950/unit to $1,660/unit. In fact, the actual cost experience was approximately 20% under the allowance

In conclusion, although there was little difference between proposal calls and tender calls, there is a need to review appropriate items and values for allowances in future.

3.1.6 ADMINISTRATIVE AND CONSULTING COSTS

Costs attributed to consulting fees were analyzed to determine whether they varied between proposals and tender calls. Consulting fees included all design professionals, architectural, structural, electrical and mechanical engineers, landscape architects, and also quantity surveyors, construction inspectors, clerks of the works, and professionals engaged to aid in the preparation of proposals and evaluation and selection. Not included were land surveys and soil testing.

In the case of tender calls, consultant fees varied from 6.5% to 8.4% of construction costs, plus disbursements, with the average at 7.4%.

It was more difficult to calculate the fees for proposal call projects since the total consulting fees were comprised of fees incurred by the Society, together with fees incurred by the proponent. The proponent's fees were taken off progress claim statements, as stated. The proponent's fees ranged from 2% of construction cost (no inspections) to 7%, with an average of 4.45%. Consulting fees incurred by the Societies varied with the nature of the project and the level of service. Fees tended to be higher where the Society contracted for detailed service from more than one professional, for proposal call preparation and selection, and where full inspection services were also contracted. The Society incurred consultant costs ranged from 0.6% to a high of 4.3%, with an average of 1.95%. The total consultant fees for proposal calls ranged from 2.6%-9%, with an average of 6.4% of construction cost. The higher costs reflected smaller and/or remote projects where certain fees were based on time charges, and not as a percentage of cost.

It is worth noting, however, that since tendered projects were generally more costly (per unit and per gross square foot), the variation between tender call and proposal call fees was even more pronounced. For example, on a per unit basis, total consultant fees for tender calls averaged $3,465/unit compared to $1,998/unit for proposal calls.

The above analysis demonstrates that the common perception by most Societies that consultant costs are doubling up under the proposal call system, is in fact not always the case.

3.2 DESIGN CONSIDERATIONS

3.2.1 SITE ANALYSIS

A review was carried out to assess the appropriateness of the site selection in terms of meeting the needs of the Society, and other development considerations. Of the 16 projects, only 3 involved land proposals. In one case, the selected site was adjacent to an existing project. In the other two situations, although only a single stage call was made, the successful sites were both considered suitable for the intended use. Of the remaining 13 projects, 3 were extensions to existing projects. Of the other 10 sites, 2 were available as Crown Land, 4 were partly owned by or made available to the Society, and 4 were identified by the Society and acquired by LPH. The review indicated that 7 of the sites were reasonably well located in relation to existing and community facilities. Both crown sites, however, were distant from existing facilities and could pose problems in the future for the residents, although the Societies are providing transportation services to assist.

In one case, the site was sufficiently large to accommodate a three storey woodframe building, rather than the six storey concrete structure that was developed. The three storey building would have been more in keeping with adjacent developments and would have cost considerably less per unit than that which was developed.

In the case of two Vancouver projects, there were considerable site design and City imposed design constraints upon the selected sites. In addition, the desire to accommodate a predetermined number of units created additional design problems. The result was two relatively inefficient buildings with expensive building forms and exterior treatment.

3.2.2 ANALYSIS OF TENDER/PROPOSAL CALL DOCUMENTS

TENDER CALLS

The standard of documentation for the tendered projects was reasonably consistent with private and public sector experience for similar types of construction, where a public tender is used. The detailed standard of documentation was considered appropriate to protect the owner, and to provide a predictable quality of construction. Although as discussed later, one might question what was called up, one could not find major fault with how it was called up.

Notwithstanding the aforementioned, it should be noted that most housing developed by the private sector is not done through open public tender. Rather, much of the bidding is done on an invitational basis, in what might be regarded as a somewhat informal manner. For this reason, the documents are not necessarily as detailed or as specific. A discussion of procurement techniques employed by the private sector is discussed further in Chapter 5.

PROPOSAL CALLS

As previously noted, there were no standard proposal call documents. Each Society prepared its own call with assistance from various technical resources. A framework for proposal call documents is set out in the LPH Supplement #12. In most instances, this framework was followed, although in a couple of instances, the documents issued were extremely sketchy. This was primarily due to the limited timeframe available to issue the proposal call.

The key concern regarding the documents was the variation in degree of specificity, both in terms of prescriptive standards and performance standards. In some instances, the documents were quite good, balancing the performance and prescriptive standards and guidelines. However, in other situations, the documents were not appropriate for a proposal call, having been based primarily on previous tender call packages.

In the case of a couple of site specific calls, insufficient information was provided regarding existing site services and access conditions. This created some uncertainty in the minds of bidders. In a number of situations, the Society had a specific site planning layout in mind, particularly where the units were an addition to an existing project. However, this information was not communicated either verbally, or through guideline plans to prospective proponents. As a result, some design modification was required prior to selection of the winning submissions. In some situations, documents stressed a specific unit size, but without sufficient regard for design in terms of furniture location. It would be preferable to require furniture layouts as a part of the proposal call submission in order to ensure that rooms can be adequately furnished.

A number of proposal call documents were vague with regard to the amenity area requirements. In a couple of instances, the documents called for a square foot unit cost for possible additional recreation space. This caused some difficulties both in terms of submitting proposals, and adjudicating the various submissions.

In a number of instances, the documents were not clear as to what consultant services would be required of the proponent, particularly with regard to construction supervision. Similarly, the selection criteria were not clearly set out, although most proponents were made aware that the final selection would take into account both cost and project design.

3.2.3 DESIGN ANALYSIS

The 16 projects were reviewed to compare the design and quality of the proposal call projects with that of the tendered projects. In addition, comparisons were made with the design guidelines and standards set out in the LPH Handbook. The analysis was based on a detailed review of the plans and specifications, as well as site visits in all but one case. Particular attention was focused on those items which are "hidden" once construction is

complete, such as wall and floor assemblies, carpet underlay, insulation, etc. Design and materials were also compared against the standard generally considered acceptable by the industry for modest rental housing. The following is a summary of the observations based on a number of key design items:

1. Site Planning. All projects generally responded well to the site context. The buildings in Vancouver were generally more complex because they were located in high density zones, and constrained by site limitations and zoning considerations. Projects located in more rural communities were somewhat less constrained by site limitations. In most instances the projects provided housing in keeping with the adjacent community.

2. Amenity Areas. The amenity provisions were generally satisfactory, although some projects had fairly substantial amenity areas relative to the number of units. This is particularly true for the tendered projects. The amenity areas in some of the proposal calls were not well located in terms of the overall development. The entry lobbies often serve as additional amenity space. The tendered projects generally had larger and better finished areas. Similarly, there were more single loaded, and in one instance double volume corridors in the tendered projects. The proposal calls were much more straightforward. The standard of finish in the corridors varied in both tenders and proposal calls. In a number of instances, the halls were institutional and monotonous and for a very modest increase, could have been made much more attractive and residential in feeling.

3. Landscaping. In many instances, insufficient information was available regarding the landscaping on the drawings. Several projects included cash allowances for landscape work. The site visits indicated that in most instances, the landscaping was modest and there was little distinction between the proposal calls and tendered projects, taking into account locational differences.

4. Parking. Parking standards varied from 0.167 spaces/unit to 1.5 spaces/unit. Underground parking was provided in two Vancouver projects, and some covered parking was provided in one location in response to climatic conditions.

5. Exterior - General Appearance. The exterior appearance varied considerably from brick clad multistorey buildings to very basic single storey structures. Several proposal call projects were quite attractive, with no apparent lower standard than tendered projects. As a general rule, projects responded well to the context and community standards.

6. Roof/Finish. Generally, asphalt shingles and roof trusses were used. In two exceptions, formed metal roofing on wood trusses was used to respond to climatic conditions. The standard for flat roofed buildings varied considerably from IRMA to standard built-up roofing. Only one flat roofed project reviewed specified an MRSMCA roofing guarantee. This requirement may be impractical in rural locations, but should be considered to ensure a satisfactory roofing standard.

7. Wall and Attic Insulation. Standards varied according to climatic conditions, and generally conformed to CMHC requirements. There was no apparent difference between tendered and proposal call projects.

8. Walls/Finish. Again, standards varied substantially, with very little apparent difference between tendered and proposal call projects. More consideration should be given to ongoing maintenance considerations in the selection of certain exterior finishes.

9. Doors/Windows. Standards varied, with no obvious difference between tender and proposal calls. Consideration should be given to the use of insulated metal doors for exterior applications in certain areas. Both wood and metal windows were used, as well as thermally broken windows, which should represent greater energy savings over time. Double glazed windows and sliding doors were standard throughout the projects.

10. Unit Planning. There was no consistent standard. Most units generally conformed to the Ministry guidelines. In a couple of instances, the units were larger than normal. Some units were well laid out, and others were poorly planned. There was no apparent difference in size or quality between the tendered and proposal call projects.

11. Storage. The storage conditions were generally comparable for both tenders and proposal calls. Some projects had central storage in addition to in-suite storage. As a general comment, the storage requirements should be reviewed. The amount of storage generally provided would appear inadequate for most seniors.

12. Floor/Finish. The standards of flooring finish, particularly carpet and quality of underlay, varied substantially, but with no apparent relation to tender/proposal call. This is another area that should be reviewed with consideration for life cycle and residential appearance. Based on past experience, it would appear reasonable to set out a specific standard for carpeting for common areas and suites.

13. Walls/Finish. Generally, the same finishes and paint quality and application were used in both proposal calls and tenders. Some consideration might be given to upgrading this standard, particularly in common areas.

14. Party Floor Construction. Where applicable, projects reviewed generally met Ministry guidelines, although marginally in some instances. There were a number of complaints of inadequate sound separation in one proposal call project which was visited. There was no apparent variation betwen proposal calls and tenders.

15. Party Wall Construction. The standards varied from an estimated STC45 to STC56 sound rating. There was no apparent difference in the standard between tender and proposal call.

16. Cabinets/Millwork. Most projects utilized pre-manufactured cabinets. Tendered projects tended to call up a higher quality on millwork, including a number of custom situations. Little consideration was given to the type of door and drawer pulls suitable for seniors, even where custom millwork was designed. The proposal call standards generally met the market housing standards, which are quite satisfactory for seniors.

17. Doors. Pre-finished and site finished interior doors were used. There was no apparent relationship to whether it was a tender or proposal call. Consideration should be given to the use of pre-finished doors for cost and maintenance considerations. A number of projects did not include levered door hardware, although this is recommended by the guidelines, and generally considered a mandatory standard for senior citizen housing.

18. Plumbing Fixtures. There was a fairly consistent standard, generally conforming to market standards. There was some variation in the installation of specific features suitable for seniors, such as lever handled faucets, telephone showers, grab bars, and temperature control valves.

19. Heating Systems. Both electric and hot water systems were used. There was no correlation between tender and proposal calls. Consideration should be given to the cost benefit analysis of hot water heating versus electric baseboard, particularly in Vancouver. Some concerns were expressed about the ongoing maintenance aspects of hot water heating in a Vancouver project.

20. Electrical Fixtures. With the exception of two or three tendered projects, the electrical fixtures were of a modest quality, consistent with market housing standards. Most projects were equipped with alarm systems.

SELECTED CONSTRUCTION MATERIALS

Name of Society	Procurement Type	Storeys	Parking	Wall Insulation	Ext. Doors	Windows	S.T.C. Party Wall	Cabinets	Int. Doors	Hardware	Heating	Carpets .oz
Roche View - Hazelton	PC	1	1.0	20	M	W	50	M	P	S	E	28
Phelan - Merritt	PC	1	05	20	W	T	47	M	U	S	HW	28
Penticton Vet & Rec	T	6	.37	12/20	T	T	51/54	C	U	L	E	28
Shuswap - Salmon Arm	PC	1	.25	20	M	W	51	M	P	S	E	28
Parksville Lions	PC	1	1.5	12	M	T	56	C	P	S	E	18
Saanich Legion	PC	1	1.25	12	W	A	48	M	P	L	E	18
Victoria - Colwood	PC	4	.76	20	A	A	56	M	U	L	E	18
Saltspring	PC	1	1.0	14	M	T	50	M	P	L	E	-
Ivan Franko. Richmond	PC	3	.65	12	-	A	-	M	U	L	HW	28
Harry Lin Chin	T	6	.17	10/12	A	A	55	M	P	-	HW	28
Chi-Shaun	T	9	.22	-	-	A	-	C	P	L	HW	-
Vancouver Chinatown	T	4	.17	12	A	A	45	M	U	L	E	28
Langley Lions	PC	4	.3	12	A	A	48/50	M	P	L	HW	28
Marysville Hsg Soc	PC	1	.46	20	M	W	56	M	P	L	HW	28
Kaslo & District	T	1	.8	20	M	T	50	M	U	L	E	22
Revelstoke	T	1	.32	20	M	W	56	M	P	L	E	28

Ext. Doors:
M - Insulated Metal
W - Wood
T - Thermal Broken Aluminium

Windows:
W - Wood (including vinyl clad)
T - Thermal Broken Aluminium
A - Standard Aluminium

Cabinets:
C - Custom
M - Manufactured

Int. Doors:
P - Prefinished
U - Unfinished

Hardware:
S - Standard
L - Lever

Heating:
E - Electric Base Board
HW - Hot Water

General Conclusions

With few exceptions, there was little difference in the general standard of quality between the proposal call and tendered projects. The key differences were in the standard of millwork, the design and size of amenity areas, entry ways, and halls, as well as roof shapes. As previously noted, the tendered projects were generally less efficient in terms of the net to gross ratio. The projects reviewed generally conformed with some variation to market standards. However, the considerable variation between specific projects suggests the need for more consistent design standards and guidelines, and a more consistent review process.

3.2.4 LIFE CYCLE CONSIDERATIONS

As noted, there was some variation in the types of heating systems specified, and the standards of insulation, windows, window sizes, and other factors which will influence operating costs. It would appear that as a general rule, longer term operating costs were accepted in some cases, in order to achieve initially reduced capital costs.

The review to date has demonstrated that it is possible to be quite specific in terms of specifying items which do have life cycle costing considerations. The incorporation of such features in a design can apply equally to tenders or proposal calls.

The difficulty in practical terms, is carrying out a life cycle costing benefit for different situations. The best advice is to seek the advice of BCHMC, which does have a good knowledge of the appropriateness of different materials and systems for different parts of the province.

3.3 ADMINISTRATIVE ANALYSIS

3.3.1 PROJECT DELIVERY

In carrying out any review, it is important to fully understand the circumstances of the day which led up to certain actions. It is noted that in a number of instances, although projects were in the formulative stage for some time, the decision to proceed with certain projects was often made with little notice, and with tight deadlines imposed. There is no doubt that this accounts for some of the concerns expressed regarding the adequacy of proposal call documents.

On the other hand, the review has indicated that it was possible to develop projects using the proposal call technique in less time than that required for the more traditional design tender route, recognizing unusual circumstances in both cases.

It was generally noted by LPH field personnel that administration of the proposal call projects placed considerably more demands on their management time than the traditional tender approach. This is particularly understandable since in most cases, those involved had limited, if any experience with proposal call procedures, including preparation of documents, selection and evaluation procedures. The Societies often required more "handholding", particularly during the initial phases. In dealing with what was often an unfamiliar situation, LPH and the Societies were extremely careful to ensure that contractors did not take advantage of the inexperience of Societies and consultants. Concerns were often raised over the whole question of liability as noted earlier. During construction, the desire to monitor projects more closely, particularly those where the Society did not have a consultant professional on contract, did result in additional time demands on LPH staff. The selection and evaluation process also required additional time involvement.

In future, other than during the evaluation and selection process, the proposal call procedures need not place additional time demands on LPH staff, when compared to tender calls. In fact, given the potential for a compressed time frame, and a greater degree of certainty that projects will come in within the approved budgets, the proposal call system could result in less demands on LPH staff, particularly where the Society has appropriate project management capabilities.

3.3.2 BONDING AND OTHER SECURITY INSTRUMENTS

The requirement for bonding or security deposits is essential within the construction industry today. A bond or security deposit is required to accompany a bid, to ensure that the bidder will in fact enter into a contract based on his price. Secondly, bonds or other arrangements are required to ensure completion of the contractual obligations, including payment for all materials and labour supplied.

The most common security arrangements are the following:

1. A bid bond for 10% of the bid amount. In certain circumstances, if a bid bond cannot be obtained, a Letter of Credit, certified cheque, or bearer bonds for a similar amount, tied to an Agreement, are often accepted.

2. Consent to Surety. This is sometimes requested along with the bid bond and indicates that the contractor can supply performance bonds. There is some debate whether a Consent to Surety need be required since a bid bond, in itself, can be taken as an indicator that subsequent bonding will be available.

3. To ensure completion of the contractual obligations, a 50% performance bond and a 50% labour and materials payment bond are generally required. In lieu of these bonds, under certain circumstances, Letters of Credit, cash, or bearer bonds can be posted, again, tied to an Agreement. The amount can vary depending on the size of contract and anticipated risk.

In the case of tender calls, the LPH Policy Manual requires a bid bond in the amount of 10% and does not permit any alternatives. As a guarantee of performance, the Manual requires one of three alternatives with the first being the preferred: (a) 50% performance bond; (b) an irrevocable Letter of Credit from a bank in the amount of 50% of the contract; or (c) 10% of the contract amount in cash or bearer bonds to be held in trust. No specific reference is made to the requirement for a Consent to Surety, or labour and materials payment bond.

The security requirements for proposal calls are set out in Supplement #12. The Manual calls for 10% of the proposal price in the form of (a) bid bond and Consent of Surety; or (b) certified cheque. To ensure performance, the requirement is for a 50% performance and labour and material payment bonds. No reference is made to Letters of Credit, cash or bearer bonds as an alternative.

A survey of the 16 projects revealed that the following security arrangements were requested or considered acceptable:

		BIDS				CONTRACT			
Project	Type	10% Bid Bond	Consent to Surety	or 10% Cash	or 10% Letter of Credit	50% Perform	50% Mt.& Labor	or cash 10%	or Letter of Credit 50%
1.	PC	X	X	X		X	X	X	
2.	PC	X	X	X	X	X			
3.	T	X	X			X	X		
4.	PC	X			X	X	X		X*
5.	PC	X		X		X	X		
6.	PC	X		X		X	X		
7.	PC	X	X	X		X	X	X	
8.	PC	X		X		X	X		
9.	PC	X	X	X	X	X	X		
10.	T	X	X			X	X		
11.	T	X				X	X		
12.	T	X				X	X		
13.	PC	X	X	X	X	X	X		
14.	PC	X	X			X	X		
15.	T	X	X			X	X		
16.	T	X	X			X	X		

*reduced to 10% during warranty period

From the foregoing, although the requirements for tenders were consistent, there were some variations in the case of proposal calls. This raises a number of issues: should there be variations in the requirements to reflect local practice in different parts of the province; are the types of security being requested, particularly for proposal calls, appropriate. According to the available files, in all cases, proponents provided bonds rather than the cash or Letter of Credit alternatives. However, there were a number of complaints regarding the requirements, both from participating contractors and HUDAC, now CHBA. Some were concerned about the apparent inconsistencies noting that in some instances the consent for surety was required, whereas in others it was not. At least one proposal was rejected since the

contractor did not submit the consent to surety. Others expressed concern about an inability to obtain bonding, and the amount of the cash or Letter of Credit alternatives. It was noted that in one instance, in the case of a land and building proposal call, the deposit would have to be $250,000. Others were concerned about the requirement for performance bonds, even though alternative arrangements were acceptable at the time of bidding.

These matters were reviewed with representatives of bonding companies and others in the construction and development industry. A bid bond is widely regarded as being indicative that a contractor is also bondable for the contract itself, though strictly interpreted, the Consent to Surety is the instrument which supposedly guarantees the eventual bonding. These is some debate as to the effectiveness of this instrument and its usefulness and requirement needs review.

In discussion with bonding companies, it was pointed out that the more common claims are under the labour and material payment bonds, rather than performance bonds. Although in all cases such bonds were required, as previously noted, this is not set out in a manual.

Bonding companies issue bonds to contractors based on extensive reviews of the contractor's capabilities, track record, and financial strength. Companies will issue bid bonds covering land and soft costs in addition to construction costs, but are not likely to issue performance and labour and material payments bonds for amounts in excess of the value of construction. General contractors should not have difficulty obtaining bid bonds for a design/build proposal, but it is noted that the land component may increase the value which could create problems for the smaller contractor. It is therefore recommended that the land and other soft costs be excluded from the value of the performance bond. Companies will also issue bonds for projects involving different payment arrangements such as turnkey, milestone, or straight monthly draw. However, the further one deviates from the straight monthly draw, the more difficult it may be to obtain bonding. Most general contractors are not set up to handle a turnkey arrangement.

As a general rule however, development companies, because of their corporate setup, and the nature of their operations, are often ineligible for bonding. This creates problems for contractors who are also developers. For this reason, alternate security arrangements should be available, particularly in the case of proposal calls. Arrangements should also allow for the developer's contractor to post bonding, naming the Society as an additional obligee.

In the case of very large construction projects, generally those beyond the scope of this program, the amount of the bid bond is often reduced to provide only a reasonable penalty in the event of default. Similarly, placing an upper limit on the amount of a security deposit or Letter of Credit for larger projects carried out under the Seniors Program might also be considered. The amount should be sufficient to ensure that a proponent will not make a frivolous bid, or unreasonably walk away from his proposal, while at the same time not exclude capable developers or contractors who, for quite legitimate reasons, cannot obtain a bid bond. Furthermore, if alternate forms of security are acceptable at the time of bids, similar forms of security, in an appropriate amount, should also be considered to ensure performance of the contract. However, as a general comment, performance and labour and material payment bonds are preferable to a 10% security deposit to guarantee performance of the actual contract.

A broader, unresolved issue, is the validity of a bid bond for proposal calls if other than the low bidder can be selected. Normally, in the case of tenders, if a bidder does not follow through to contract, the procedure is to select the second lowest bid, and claim damages amounting to the difference in the two bids, up to the face amount of the bond. In the case of proposal calls however, one is evaluating not only price, but more subjective criteria, such as location and design. For this reason, the best proposal need not be the lowest, and the second best need not be the lowest either. At issue is the obligation of the bonding company to pay any damages if a bidder other than the lowest bidder is selected, and subsequently withdraws. For instance, if one were to select a lower price

as the second choice, how does one quantify the damage? Similarly, could the second choice be an even higher bid, when a lower bid is available? The problem arises since the use of the bid bond for a land/building proposal call was never contemplated. Although the problem has not risen in the past, it would seem likely to arise in the future given a continued use of land/building proposal calls. This matter requires further review with the surety companies and industry associations.

3.3.2 LIABILITY AND INSPECTION

As noted in the LPH Procedure Manual, unlike the design/tender which places the onus on the prime consultant for design and construction compliance, the proposal call approach is complicated by the number of players involved and different contractual arrangements. Traditionally, the client, or in this case Society, contracts with the architect who would normally have liability insurance to cover any errors. Although the assessment of blame for defects is never a clear cut matter, only one architect is responsible for both project design, working drawings, and inspection and supervision. In the proposal call, the design architect does not contract with the Society, but rather with the actual proponent. According to the recommended procedures, the Society may engage a technical expert, not necessarily an architect, to assist in the preparation of the proposal call package. The Society may also choose to hire a professional to evaluate the bids and to monitor construction progress. In some instances, architects were engaged to carry out these roles; in others, a quantity surveyor or a technician was engaged.

Not surprisingly, from the proposal calls studied, there was some inconsistency and misunderstanding in terms of who was the "architect of record". This in turn raises concerns over potential liability in the event of disputes or defects in construction. In some instances, the proponent contracted with a design professional to produce design and working drawings, but without supervision and inspection. In those instances where the architect did carry out supervision and inspection, the perception and

practice is that the architect is somewhat beholden to the contractor, his client, and therefore has no direct contractual obligations, or legal liabilities, to the Society. In those instances where the proponent's architect did not provide supervision, the Society retained professionals to carry out inspection. In other situations, both the proponent and the Society had consultants carrying out supervision and inspection on their own behalf.

In practice, most Societies retained architects or engineers to advise on the proposal call documents and the selection of the winning proponent, but only four Societies retained these professionals to provide services during construction. Three other projects utilized the services of a quantity surveyor or building inspector, again to monitor progress, and in cases to inspect. In the case of three projects, the Societies did not avail themselves of any professional services during construction, although there was a loose arrangement for their professional advisor to be on call if problems arose. In those instances where the Society professional was directly involved in inspection and certifying performance, he took on responsibilities and liabilities for the performance of a building for which he or she was not responsible for the design or working drawings. In the event of any future problems, it will be up to the Society and contractor, or courts to assess whether the problem was created by a design, compliance, or construction error.

In addition to inspection by the proponent's consultant or Society's consultant, some municipal inspections also took place. However, the amount of inspections varied depending on the location, and it should be noted that generally inspection related only to code compliance. Although projects were visited by officials from LPH, no supervision or inspections were provided. Under the arrangement between the Federal and Provincial Governments, no CMHC inspections were carried out for any of these projects.

Although it would appear that sufficient project monitoring was provided in order to assess the appropriateness of progress claims, it would appear that there is the need for additional inspections to ensure that projects are well built, in accordance with the construction documents. One arrangement would require proponents to contract with qualified professionals to provide an inspection service during construction. For continuity, this could well be the project architect. The terms of reference for the inspection contract would form part of the construction contract, and the cost of such inspection would also be included. The Society could request reports of inspection. According to the Architectural Institute of British Columbia, the Society must not dictate how often, or specifically what the inspections should be, or it could assume contractual obligations which in turn could reduce the responsibilities of the contractor. In such a situation, the proponent's architect would in fact be the "architect of record".

In addition to the above inspection services, the Society may contract for professional services (be it an architect, engineer, quantity surveyor, or project manager) to advise the Society, to monitor progress, to review progress claims and to administer the contracts. However it should be clear that this advisor not be involved in professional inspection or certification.

A secondary issue is that of <u>insurance</u>. Only 40% of provincial architects carry errors and omissions insurance. This is a business decision of the individuals involved. In the case of proposal calls, the architect contracts with the proponent, and one would expect the proponent to satisfy himself on the matter of errors and omissions insurance. The Society could insist on such insurance through its contract with the proponent. In the case of a more traditional design tender, then the Society should satisfy itself as to the appropriateness of the liability insurance arrangements.

For many of the aforementioned reasons, the requirement for the registration of contractors with the New Home Warranty Program is considered most appropriate.

The final issue is the broader question of whether an architect need be involved at all with smaller senior citizen projects, particularly in remote areas. Some have argued that engineers or drafting services can provide better services at less cost. There is some confusion as to the legal requirement for the involvement of an architect since certain provincial statutes often contradict one another. In particular, various sections of the B.C. Building Code are at odds with the Architect's Act. The Architect's Act is quite specific in stating that an architect must be involved in the design of an apartment or residential building containing five or more dwelling units, larger than 470 square metres. The Act excludes an engineer from calling himself an architect, and through a recent agreement between the architects and engineers, it has been agreed that with a few limited exceptions (grandfather provisions), engineers will not practice architecture. Similarly, drafting services are specifically prohibited from practicing architecture. Under these circumstances, given the provincial funding, and the need for qualified professional services, it would appear appropriate for registered architects, with relevant experience, to continue to be involved with the design and supervision of senior citizen housing projects.

3.3.4 SOCIETY PROJECT MANAGEMENT EXPERTISE

As expected, there was considerable variation in the level of expertise within the various Societies. In one instance, although the Society had previous experience with another senior citizen project, it had relatively little knowledge of the development and construction process. A number of Societies particularly misunderstood the objectives and underlying premise of the proposal call system, and as a result, were somewhat antagonistic towards the program. In a couple of instances, the Societies had considerable expert knowledge relating to construction matters; in other instances, the experience was very limited. In most cases, the Societies relied heavily on LPH or their professional consultants, or failing that, on the contractor and his consultants.

In general, as a result of the time spent by LPH staff, and the various consultants working on behalf of the Societies or contractors, there were few major problems resulting from the lack of expertise. In some instances, one might question the appropriateness of the site selection and actual development program in terms of building type and form. There were also some concerns regarding the administration of cash allowances, and acceptance of a few, but unnecessary changes and additional costs. Although in general, the consultant fees charged fell within the approved range, in certain instances, a more knowledgeable client would have been in a position to better negotiate a more appropriate fee arrangement.

There is no doubt that some Societies had a better understanding of the development process, and the potential problems inherent in any tender or proposal call procedures. For example, several Societies held pre-bid meetings at which the interested proponents were invited to meet with Society officials and consultants, to clarify the bid process. From the Minutes taken at these meetings, it appears that many of the proponents were better able to understand statements in the proposal calls that were not fully self-explanatory. Examples included whether the Ministry's size requirements overrode the municipal requirements; clarification of the position of the Society regarding items that were often indeterminate, such as municipal servicing, soil conditions, access road requirements, and landscaping. The nature and intent of the proposal calls were discussed, including policy matters such as bonding requirements, New Home Warranty registration, etc. From all accounts, it would appear that these meetings were regarded as a good idea by both the contractors and their representatives. The meetings also enabled the proponents to view the site and observe the field conditions.

In summary, in a number of situations certain Societies would have benefitted from additional resources to assist with the initial, and day-to-day project management. These services are not necessarily provided by an architect or quantity surveyor, but rather by someone more skilled in development and related matters. This applied to proposal calls and tender calls. In fact, there would appear to have been a greater need for such services for the tendered projects.

3.3.5 CONTRACT DOCUMENTS AND PROCEDURES

Tender calls used either the stipulated price contract CCDC12 (1979 Architect's Common Law Version), or the updated CCDC2 (1982 Architect's Common Law Version). In all instances, the contract deleted any provision for payment for materials on site, and provides for payment of construction claims within 30 days, as recommended by the Ministry. In addition, the tender call documents generally included the additional supplementary conditions clarifying and changing administrative procedures, as built drawings, provision of schedules, and notes regarding the treatment of cash allowances, as directed.

For proposal calls, Supplement #12 of the Manual indicates that the correct document to be used is the CCA Design Build Stipulated Price Contract (CCA14). This contract recognizes the obligation of the proponent's contractor to provide design services as well as construction. The contract provides for the proposal call documents to form a part of the contract and clarifies the obligations of the contractor with respect to the actions of his design team. For these, and other reasons, the CCA14 Design/Build Stipulated Price Contract is considered the most appropriate for proposal calls.

Of the ten proposal call projects, only seven utilized this contract. The other three utilized the CCDC2, prior to plans being completed, with a rider to the effect that this contract was subject to approval of the final plans by the Society. This contract document is not appropriate for proposal calls in that the design team's obligations, responsibilities, and liabilities are not clearly spelled out.

Of the seven projects that utilized the CCA14, there was variation in the timing of the execution of the contract. In most instances, the contract was entered into after selection of the successful proposal and negotiations for certain changes and modifications. In the other instances, the contract was not executed until all plans had been fully completed and approved. In the case of the latter, although the negotiating leverage of the Society was somewhat increased, the proponent was at some considerable risk.

The immediate use of CCA14 can offset problems which might arise from the need to keep bid bonds in force, not just from the low bidder, but from other potential proponents, if the design period is likely to go beyond the normal 60 day period. This problem did arise in one project where the proposed contract was CCA14, but the contractor and his architect, for a variety of legitimate reasons had to work on the plans for four months. They had no assurance of compensation or contract, and the bid bond had to be extended.

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CHAPTER 4 OTHER AGENCY EXPERIENCES

4.1 GREATER VANCOUVER HOUSING CORPORATION (GVHC)

Over the past four years, the GVHC has used an open proposal call system to generate units for their family housing rental program. From time to time, the Corporation issues a call for proposals. However, because of the allocation system for funding, the proposals are generally accumulated throughout the year and the final decisions are made once the CMHC allocation is approved. A standardized information package has been prepared which sets out the conditions and design criteria for the call.

As GVHC generally receives more proposals than they are able to take up, they are in a position to pick and choose between proposals. The selection is based on CMHC appraisals, GVHC technical reviews, and conformance with a fairly detailed performance specification. The selection criteria are: the offering price, the site location, the preliminary design, and the proponent's background.

After selecting certain proposals, GVHC enters into pre-contract design modifications and price negotiations. No contract is signed until the plans are reasonably finalized, and CMHC has approved the lending values, and all Municipal approvals are in place. In practice, the formal contract is signed once a building permit is issued. During the pre-contract phase, a proponent is entirely on his own. GVHC does not issue any letters of comfort and is therefore not obliged in any way. This system obviously improves their negotiating ability.

GVHC has had experience with both full turnkey packages, including the purchase of land and buildings on completion, or separate land purchase and separate construction contract financed by progress payments. The key consideration is the cost of interim financing, and the matter of bonding.

The proponent must be a builder who is bondable. GVHC requires a 50% performance bond, but no labour or materials bond. They do not bid bond proposals given the nature of the call. GVHC always opt for wrap up insurance if they own the land, which automatically converts into longterm insurance upon completion. The rationale is that otherwise they would have to examine all the insurance closely to ensure that they have full liability coverage.

With regard to certification, the proponent's architect is responsible for supervision, sufficient to sign off the project at substantial performance. GVHC carries out its own certification for payment as well as field inspection to monitor progress. The developer's architect has a responsibility to the developer as far as his design is concerned. However, the GVHC architect is fully involved in the contract adminstration, in that he has the privelege of interpreting and having final authority over all plans, specifications and standards, etc. in any arbitration issue. Both the developer's architect, and the GVHC architect jointly sign off the project and certify substantial performance. The GVHC architect carries full liability insurance.

4.2 ALBERTA HOUSING CORPORATION

The Alberta Housing Corporation has been directly involved in the development of senior citizen housing for a number of years. Projects are developed under Section 43, which is a Federal-Provincial cost shared program. The Corporation is the developer and owner of the projects which are subsequently managed by non-profit societies upon completion. The procedures are quite different than those employed in British Columbia.

Although the Corporation did have some limited experience with proposal calls in the past, because it is governed by their Public Works Act, it had great difficulty in justifying selections other than for the lowest bidder. As a result, all projects are now delivered through a traditional design tender process. Once the need has been established for units in a

particular location, an architect is engaged by the Corporation. He is provided with a very detailed set of design guidelines and requirements, as well as a standard format for calling tenders. The design guidelines and requirements have been extremely well written, and in themselves, contain a combination of performance and prescriptive criteria. The tendered document format is consistent with the Provincial requirements for a direct public tender process.

Discussion with officials of the Housing Corporation suggested that the current system does result in a number of "architectural masterpieces" and a great deal of duplicated effort. It is apparent that the Housing Corporation has significant in-house technical resources, and one might question the role of their consultant/architects. Alberta is interested in investigating the application of proposal calls, or modified proposals calls, which would include design guideline drawings for future program delivery.

4.3 ONTARIO HOUSING CORPORATION

In the past, the Ontario Housing Corporation made extensive use of the proposal call system to develop public housing. Use was made of both a land and building proposal call, and building only calls. The most recent experience has been with building only calls through the use of a modified proposal call. The key distinction between a modified call and the proposal calls reviewed in B.C. is that guideline plans are prepared and issued as a part of the call. These guideline plans could be described as "glorified preliminary plans" in which any key design issues were set out. This approach allowed for a fair degree of control over the overall site planning, general building appearance, and any other features which might be considered important, such as the location of the amenity areas. In addition to the guideline plan, a document setting out design guidelines and performance specifications was also issued. This document was considered to be extremely important, as it established the expected quality of finished product. In addition, for particular projects, specific details were also added.

Although the overall design and quality was generally controlled, the contractor was free to choose the type of construction, construction details, which in turn resulted in an overall cost effectiveness. Generally, because of the fairly high degree of design specification, the low bidder was generally awarded the contract. Within OHC, there has been some debate as to whether the contractor's architect should in fact work for the contractor, or be paid by OHC. However, in the final analysis, it was agreed that the contractor would retain all consultants, who would be responsible for full design and supervision services. In addition, OHC had staff which regularly inspected and monitored construction.

OHC officials advised that they liked the program because it offered "the best of both worlds". On one hand, it permitted a fair degree of control over the basic building design, type, and quality. On the other hand, it permitted the contractor's know-how to be incorporated into the design details, construction systems and methods. Until the use of the proposal call, OHC had had a number of bad experiences with architects who were not sufficiently experienced with multi-family residential construction, particularly in more remote or rural areas.

Through use of the proposal call, OHC found there were fewer extras associated with each project, since it was deemed the contractor's responsibility to ensure that the proposal call documents, and all applicable codes were met. It was noted that the composition of the guidelines and specifications document was extremely important.

Presently, there are no proposal calls being issued by OHC since most public housing in Ontario is now being delivered through the Municipal Non-Profit Programs. However, except for very unique circumstances, requiring very special building design, OHC would continue to make use of the modified proposal call system in the future.

4.4 COLUMBIA HOUSING ADVISORY ASSOCIATION

Columbia Housing Advisory Association is an umbrella organization acting as a resource group to develop cooperative family housing in the Province of B.C., mainly in the Lower Mainland. The NHA program that they operate under is similar to that of the GVHC, where the federal assistance provided is used to reduce mortgage payments from a market rate down to a 2% mortgage. Columbia Housing Advisory Association has an open proposal call, and selects sites and projects on an ongoing basis to fit the budget allocations available from CHMC. Potential projects submitted by developers are analyzed for location, unit mix and type of building, and assessed against known demand for cooperative housing in the region. Selected projects are not contracted for at the outset, but the Association may issue a form of Letter of Agreement, that holds the site available for a three month period.

The developer and his architect on selected projects then produce preliminary designs and specifications and proposed price, and this package is then evaluated and modified to suit the cooperative program and budgets. Unlike GVHC, there is no formal performance specification document, but projects are reviewed on the basis of past experience and input from CMHC. The Association will contract for professional services to review and negotiate projects on a project by project basis. Occasionally, projects are selected for existing cooperative societies, but usually the projects are first selected and then a group is formed to take over the project. Once preliminary plans with good design and good price are established, the contractor's architect will work with the cooperative group to modify the plans in terms of kitchen type, unit layouts, materials, finishes, etc., always with the Association in a monitoring role. When plans are finally acceptable, the Cooperative Society will enter into a contract, first to buy the land, and then to construct the proposed building on that land.

The Association has only gone with a true turnkey project on one occasion, and for reasons of interim financing, budget control and project move-in and unit take-up, the Association prefer the projects to be built on land owned

by the Societies. For bonding purposes, the Association take a 50% performance bond and a 50% materials and labour bond, or as an alternative, a 10% Letter of Credit. From their experience they have taken approximately half of their projects with Letters of Credit, as they are often dealing with developers rather than straight contractors. They have never had to call a bond or Letter of Credit for payment. The Association insists that the developer's architect inspect the project on an ongoing basis and provide the final inspection certificate. However, they usually suggest that the Cooperative engage an owner's representative to monitor progress, to check materials and construction used, and to review progress payments.

4.5 VICTORIA CAPITAL REGIONAL DISTRICT (VCRD)

The Victoria Capital Regional District, through its Housing Agency, Capital Homes is in the business of delivering rental family housing under the same program that GVHC operates. The number of projects undertaken is very limited, and the approach taken by staff is very much an individual hands on approach. VCRD chooses selected projects on the basis of location, housing type and price, to fit unit allocations from CMHC. VCRD will take selected proposals from the concept plan and outline price through to a fully developed set of approved plans, without any formal contract with the developer. Unit layouts, materials and specifications, and price are all subject to direct negotiations between VCRD and the developer until a suitable product is arrived at. From this point, projects are developed on a turnkey basis, with the Capital Regional District picking up the project only upon completion, if performed to their satisfaction. VCRD monitors projects throughout construction but is not directly involved in inspection services, nor is it providing interim payments to the developer.

An official commented that the program's success is highly dependent on its own in-house resources, and the development climate during which projects are being developed. The procedures give a high degree of control to VCRD, and this works best when the developer or builder has few alternative options for his land or building project.

4.6 METROPOLITAN TORONTO HOUSING CORPORATION

Over the past few years, the Metropolitan Toronto Housing Corporation (MTHC) has been directly involved with a significant number of senior citizen projects. Previously, the majority of projects were developed through a traditional tender process. However, as a result of higher costs, and what many regarded as too much emphasis on "architectural niceties", more use has been made of a proposal call system in recent years.

MTHC places a great deal of importance on the preparation of the specific guidelines and specification documents. They have just gone through their seventh edition! The Corporation is not that concerned about aesthetic considerations. They are generally left up to the Municipality, the proponent, and his architect. More importance is given to construction quality, and particularly the mechanical, electrical and structural systems.

In the most recent experience, because of particular site conditions, the Corporation had intended to proceed with a tender call. However, the architect's estimate was so high, that the decision was made to issue a proposal call to the industry. The Corporation appears confident that through the proposal call, they will be able to deliver the units within the approved budget.

The evaluation of proposals is carried out by MTHC and OHC staff. The key consideration is to ensure that the submissions conform with the proposal call requirements. It was noted that the majority of builders participating in the program are familiar with these requirements. As a result, the selection is generally made on the basis of lowest price. In the case of land and building proposal calls, an evaluation is carried out to assess the best location and overall design. The Corporation does not apply any formal evaluation matrix as part of its evaluation. Rather, the selection is made on the basis of the judgement of MTHC and OHC officials. The feeling is that it is not possible to create an effective mathematical matrix which will automatically select the most appropriate submission.

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CHAPTER 5 PRIVATE SECTOR EXPERIENCE

5.1 TENDER CALLS

As previously noted, the development industry generally does not use public tender calls for smaller residential projects. Although much of the work is tendered by general contractors, this is often carried out on an invitational basis. Similarly, in the case of construction management, bids are obtained from a shortlist of pre-qualified bidders with whom the general contractor or construction manager is familiar. As a result, documents are generally more flexible, permitting the consideration of several alternative materials and construction techniques, thereby believed to result in lower costs. This approach is well suited to the development market as the builder is usually not accountable to a third party owner.

The standard of documentation which was reviewed in most of the proposal calls is generally consistent with the type of documents used in the private sector for tenders.

5.2 CONSTRUCTION MANAGEMENT

Construction management is often used in the private sector for projects, where time saving is important, or for projects where the developer desires to retain a high degree of control over the design and construction process. The construction manager acts essentially as the owner's agent on the project and has the owner's interest primarily at heart. The construction manager, if hired at the design stage, can exercise his knowledge and experience in construction to advise and make recommendations with respect to the economics of different methods of construction and the use of alternative materials. With proper consultation with the architect and the structural, mechanical, and electrical consultants at the design stage, a more economical building can be achieved without compromising in any way the quality and general design criteria. With the construction manager acting on behalf of the owner, and not as an independent contractor, the temptation or incentive to "cut corners" in the construction of the project is eliminated.

The construction manager can provide fairly accurate budget figures even at the preliminary design stage to ensure that the owner's financial constraints are not exceeded. By applying overall budget control throughout the design and construction phases, a high quality building can be achieved at optimum cost.

The advantages of competitive bidding are not necessarily reduced, as the construction manager will ensure that all trade contractors are pre-qualified and have tendered their portion of their work on a regular lump sum or stipulated price basis. The owner contracts directly with the trade contractors, through the construction manager. The construction manager works in most instances on a fixed fee basis.

In a limited number of instances, construction management has been used by government agencies for certain projects. CMHC used construction management for a few senior citizen projects in the mid 1970's. The key disadvantage of construction management, however, is that <u>one starts construction prior to having a total contract price in place</u>. As a result, one does not know with certainty whether the end price will in fact be within the approved budget. Such certainty can only be achieved through a fixed price or upset price contract. The technique also generally works best with a knowledgeable owner, who is a position to administer the various individual subtrade contracts. For these latter reasons, it is not considered appropriate for non-profit senior citizen societies to embark on construction management projects. However, the concept of having a knowledgeable construction person provide input during the design stages for a project which is to be tendered, is oftentimes most appropriate. This, hower, can be achieved through the involvement of a knowledgeable person during the early stages of a project, which can be subsequently tendered, or put out on a proposal call.

5.3 NEGOTIATED CONTRACTS

Often, developers will enter into a negotiated contract based on a maximum upset price, once preliminary drawings are complete, but prior to completion of full documentation. Such contracts make extensive use of cash allowances, and if construction costs less than the maximum upset price, the owner and contractor split on a prearranged formula, the cost savings. The contract can be performance bonded, and if required, a labour and material payment payment can also be provided.

The advantages of a maximum upset or negotiated price is that the contract can be bonded. Providing the owner does not initiate changes, overruns can be controlled more effectively. If savings occur, 50% or whatever percentage agreed upon can be passed back to the owner. The disadvantage of this approach is that there is often less flexibility as to design and structural changes as the drawings are completed, and construction proceeds. The contractor is more price conscious and this can often affect the quality of work. In addition, if the initial upset price is not carefully established, the contractor can end up earning a much larger than normal profit, with the total project costing more than it should have.

In effect, the kind of proposal call which has been used is not that dissimilar to a negotiated contract. The price is established on the basis of preliminary drawings, and the contract can be bonded. The key difference is the absence of any kind of profit sharing for cost savings, and the fact that the architect who prepares the initial plans, completes the construction documents.

Again, negotiated contracts work best with an experienced contractor and experienced owner, with a good working relationship. Given the relative inexperience of most non-profit societies, and the desire for a high degree of quality control, negotiated contracts are not seen as a viable alternative to the proposal call. However, in certain situations, there may be an advantage to consider a negotiated contract as an alternative to a traditional tender call in certain circumstances where contractor input in the working drawings, and establishment of a contract price earlier in the development process, could be important.

5.4 TURNKEY

A turnkey is a form of proposal call. The key difference between most turnkey deals, and the proposal calls which were reviewed, is that the developer or contractor retains ownership of the land and arranges his own financing for construction. The purchaser acquires the project upon completion. A contract is in place prior to the start of construction, setting out the terms of the arrangement.

The advantage to a turnkey arrangement is that the purchaser need not make any payments until he has seen the final product. On the other hand, he is generally not involved directly with its construction, and has little opportunity to change or supervise the work. Some variation is possible under certain circumstances. The purchaser need not worry about bonding since, if the product is not completed, there is no obligation to purchase.

The disadvantages of a turnkey arrangement are the following:

1. They are often more expensive, since the developer must build in to the price his financing costs which are often higher than the costs to the future owner;
2. They are only applicable in the case of a land and building proposal call, and do not work for building only;
3. Most smaller contractors are not set up to carry out a turnkey with one lump sum payment, and thus the competition is limited, particularly among smaller contractors, and particularly in rural areas; and
4. It is difficult to arrange for model suites or any phased occcupancy.

For these reasons, although turnkeys might be considered in limited situations in larger centers, they are not likely to have any widespread application in many parts of B.C.

CHAPTER 6 - EVALUATION AND SELECTION PROCEDURES

6.1 BACKGROUND

The LPH Manual notes that "selection conditions" should explicitly state all criteria which will, in fact, be used for evaluating bids. The selection conditions are listed as follows: (1) construction quality; (2) planning and aesthetic quality; (3) price; (4) contractor capability; (5) site quality; (6) proximity to retail stores, transportation, medical services and community centers; (7) construction completion schedule.

In fact, there was considerable variation in how the selection criteria were set out in the proposal call documents. The following are examples of excerpts from the documents:

> "A panel comprising: the client's building committee; an independent architect; and the quantity surveyor/contract administrator will review the proposals."

Another set of documents included the above with the addition of the following: "a pre-prepared matrix will be completed. The decision of the panel is final."

At the other extreme, a number of proposal calls included, as a schedule, a weighted factor chart as indicated below:

WEIGHTED FACTOR CHART FOR EVALUATION OF SENIOR CITIZENS' HOUSING

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 - Environment quality (relationship to adjacent buildings)	7															
2 - Site usability (grades, access etc.)	6															
3 - Building/site space ration (not area) judgment of site utilization	5															
4 - Design quality (including potential problems)	8															
5 - Space utilization (building/unit)	7															
6 - Amenities - outdoor	7															
- indoor	7															
7 - Quality of materials	6															
8 - Conformance with Tender Documents (architectural)	5															
9 - Total cost	5															
10 - Area per unit	4															
11 - Accessibility to public safety facilities	5															
12 - Operating cost	7															
13 - Parking	5															
14 - Bonding	5															
15 - Financial capability	6															
16 - Conformance with Tender Documents (legal)	5															
TOTALS	100															

It should be noted that in this case total cost represented only 5% of the total assessment; and the matrix included both subjective items, e.g. design quality, environment quality, site usability, and strict compliance items, e.g. conformance with tender documents, bonding, etc. In fact, cost was a major factor in the selection process.

In a number of instances, there was no clear statement as to the basis for selection. Not one of the proposal calls was able to clearly state the underlying objectives with regard to the selection criteria.

In a number of instances, bids were to be submitted so that they could be judged anonymously. In some situations, there was a public proposal opening; in others, the bids were not made known so that the selection committee would not be influenced by public knowledge of the prices.

In one case, the low bid was selected with no other evaluation. In all other cases, a variety of evaluation systems were used in order to select a successful proponent. There was a wide variation in the form of matrices devised, in the scoring techniques, and the relationship of design evaluation to price (cost-benefit). There was variation in who carried out the evaluation, the actual criteria used, and as noted, the scoring systems. Most matrices included cost as a component factor, but assigned a relatively low overall weighting to it. A number of documents noted life cycle costing on a present value basis as a key part of the selection criteria.

In three instances, the low priced proposal was not accepted. In one case, a combination of site preference, overall price, and design quality resulted in the selection of the eighth lowest bid. The bid price was 4.5% over the low bid. From the analysis results available, it appears that four of the proposals were marginally inferior designs and on poorer sites; three others were judged to have an inferior design. In a second case, after the technical evaluation of the proposals, two lower cost proposals were passed over; one due to inappropriate design, and one due to poor builder

reputation. No attempt was made to correlate price to evaluated quality. The successful proposal was 13% higher than the low bid. In the third case, after a technical evaluation of proposals, the two lowest cost proposals and the highest ranked proposal were invited to re-submit, based on modifications to the design and material specifications. The preferred design proposal was finally selected as its cost, though still not lowest, was only 1.77% above the lowest price.

In the case of the other seven projects, contracts were awarded to the lowest price proposal. In three cases, the Society choice coincided with the low price. In the remaining four projects, the Society initially selected submissions other than the low bids based on a matrix which included cost as a minor consideration. No attempt was made to assess a true cost benefit analysis. In all four projects, the final decision was to proceed with the lowest bid, but with minor design changes to make the project design more acceptable to the Society.

Composition of Selection Committee

For a number of projects, a list of criteria to be judged was drawn up (complete with weighting values). The Society and its advisors jointly went through each proposal item by item, and agreed on the evaluation in each case. Some expressed concern about the joint review given the potential for an individual with a strong personality to influence the others towards a particular proposal, or to certain design considerations.

In one instance, the Society architect did a detailed evaluation, which was subsequently discussed with the committee. As a result, his biases strongly influenced the Society.

In a number of cases, the Society, its architect, and quantity surveyor independently evaluated proposals and scored them. However, each used a different set of criteria and weighting values. The idea of having three different evaluations, albeit preferably using the same criteria, would appear most reasonable. However, a number of Society members commented that is was difficult for them as lay people to evaluate many of the design criteria, without technical assistance.

Weighting and Overlapping of Criteria

There were numerous examples of poor evaluation weighting. For example, in one situation, the Society judged only a few of the categories. However, when the total scores were tallied, no mathematical compensation took place, thus distorting the impact of the different scores. In other projects, where one comprehensive list was used, internal overlap occurred, thus resulting in unreasonable weightings for particular design features.

A key issue which did not appear to be addressed, was how to deal with items which simply met, or exceeded the stated requirements, but without any significant benefit. For instance, if a certain carpet weight was specified, and considered adequate, should a better carpet receive more points. Similarly, there seemed to be little justification for giving a score for items such as bonding. The requirements should have been met. If not, then the submission should not have been evaluated at all. One project evaluation even gave certain projects different scores for "cash allowances" even though these were fixed and set out in the documents!

Perhaps the key concern was the matter in which capital cost was handled as a component of the evaluation matrix. All matrices, except one, included cost with a weighting factor ranging from 5%-33%. In fact, this was not consistent with the underlying objective, namely, that the successful submission would be that which, in the opinion of the selection committee and LPH, met the requirements of the proposal call, at the lowest price. In those situations where there was some variation in subjective matters,

such as design or location, then the successful proposal was that which offered the best value for money, with preference given to the lowest overall price.

In the final analysis, the study team would conclude that based on the available information, the appropriate choice was made in most situations. However, the lack of an appropriate evaluation framework did result in a lot of bad feeling between Society members and LPH, and a great deal of wasted time and energy. Furthermore, the matrix and selection process used could not be relied upon to lead to reasonable decisions in the future.

6.2 A FRAMEWORK FOR EVALUATION

If all projects in the province were to be judged by the same person, or group of people, it might not be necessary to have a structured framework. However, as long as different groups are judging different projects, some framework is useful. The following framework is based on the underlying objective that the successful proposal should be that which complies with the proposal call requirements at the lowest overall price. Where certain subjective criteria must be judged, e.g. siting and location, unit design, amenity areas, then the successful proposal is that which offers the greatest value for money, or cost-benefit, at the lowest price.

The following is the basis for any evaluation based on a scoring system:

1. Every proposal call submission must meet all codes, proposal call document requirements, and specifications;

2. No points are to be given for meeting proposal call or code requirements, nor is any adjustment to a proposal call price to be allowed to bring any proposal up to the required standard. It is assumed that this will be done at no cost, or the proposal will be eliminated;

3. An evaluation matrix, comprising a point system is to be used primarily for more subjective items relating particularly to site location and quality, building layout and design, materials and systems, and capability and reputation of the proponent, and other items not easily specified;

4. All weights and elements must be established prior to receipt of proposals. Each element selected for the decision framework must be given a weight. The weightings can vary to reflect the importance of the item for the particular Society. For instance, a lounge or suite location to maximize the view potential may be three or four times more important to the Society than the accessibility of garbage for collection, or the location of visitors parking. Obviously, any element selected for evaluation along with its rating, can vary from site to site. For instance, the ease of handling snow removal at Revelstoke is far more important than a similar item in Victoria;

5. Rate each proposal on each element, giving a numerical score, say from 1-10, with 5 average, 1 very poor, and 10 excellent. Multiply the rating for each element by the weighting, and sum the total to obtain a single figure for each proposal.
   Note: in the past, some matrices confused scoring, with ranking. For instance, rather than rate the unit design out of 10, all twelve projects were ranked 1 through 12. As a result, there were significant distortions in the final score, particularly when one mixed rankings and ratings within the same matrix. There should be attached to the evaluation, an explanation of how the points are to be scored, so that all adjudicators are scoring the same way; e.g. if hallways are scored out of 10, the average hallway may in fact get a 5, and a superior one would get an 8, but the range would not go down to 0 unless one design was totally abominable!

6. Efforts should be made to avoid the doubling up of items which duplicate one another;
7. The evaluation should account for cost effectiveness in terms of ongoing maintenance (e.g. wood siding vs. aluminum), heating costs, and energy efficiency, etc.;

8. Capital costs should not form part of the evaluation matrix.

Experience has indicated that it is not possible to develop one simple formula which will automatically identify the best proposal, either in terms of overall design, or in terms of value for money or cost benefit. Any scoring system is at best subjective, and the situation is aggravated when only preliminary information, such as that submitted in response to a proposal call, is available. However, through a well prepared, and well documented evaluation system, combined with a complementary cost benefit analysis, it should be possible to identify the most appropriate submissions. What is needed however, is a clear basis for evaluation, a well thought out weighting system, and some consistency on the part of the different scorers.

Preferably, the point and rating system should be such to generate a high number of points, say a maximum of 1,000, as this will more clearly highlight differences between various proposals. As previously discussed, it may be appropriate for the architect and/or quantity surveyor to evaluate separately from the Society, but all adjudicators should be evaluating on exactly the same format. In certain instances, it may be appropriate for individual Society members to evaluate separately, and then combine their score to avoid bias from a strong person within the Society.

Site Selection

It should be noted that certain attributes are easier to evaluate than others, using mathematical matrices. For example, with respect to site selection, through a pre-qualification, one should be able to eliminate all unacceptable sites. However, of those which are acceptable, some will be preferable to others. Ideally, the point system and spread, will approximate that which would be calculated by an appraiser carrying out a site appraisal.

Builder Capability

Similarly, it is difficult to both establish the weights, and calculate the ratings for elements such as the "reputation" of a builder, since this is highly judgemental. As an alternative, it may be preferable to exclude the builder reputation, experience, etc. from the matrix, and consider it as a separate item, along with cost, as a part of the overall review. It would be considered prior to the evaluation, or at the end, depending on the seriousness of the concern.

As previously noted, different ratings should not be given just simply because items conform with proposal call documents. Proponents either meet the requirements, or they don't, and if they do not, then they should be excluded. On the other hand, there are certain items which often come up, which are as not clear cut. For instance, the bid bond may be provided but not the Consent to Surety. Similarly, the submission may not include the actual Home Warranty Registration eligibility. In such instances, normal practice is to allow 24 or 48 hours for the proponent to comply with such requirements. If after that time, the requirements cannot be met, then the bid should be excluded.

COST BENEFIT ANALYSIS

One way of carrying out a second analysis, once the point score has been calculated, is to divide the score by the bid price to come up with a "cost benefit index" (i.e. points per $1,000). The projects can then be ranked in terms of overall price and value for dollar, and a number of essentially better proposals will likely emerge. If the cost benefit index rating is very close, the suggestion is that one automatically go to the low bidder, assuming all of the proposal call requirements have been met. One would only consider a higher bidder if a much superior index emerges.

Even at this stage, one should not automatically select on the basis of these mathematical calculations. Rather, if the numbers are close, one should review the two or three best proposals and evaluate them. For instance, the cost difference may be $35,000 between two projects. What one must do is review the evaluation list and say "for that $35,000, what we are getting is a better hallway, a larger lounge, a little bit more storage, and a more pleasant environment, etc.". At that point one must make a judgement whether in fact the extra benefits are worth the additional cost.

CASE STUDY

The following case study indicates the importance of correct use of weighting and scoring, and of carrying out the final step of a cost benefit analysis:

a) a detailed evaluation was carried out which resulted in a score for each project, and a subsequent ranking by each evaluator (Society, architect, quantity surveyor). Rather than aggregate the scores, the results were tabulated as follows:

Project	A	B	C	D etc.
Society	2nd	1st	3rd	4th
Architect	6th	1st	3rd	4th
Quantity Surveyor	4th	8th	4th	5th
"Combined" rank score	12	10	10	13

In the above ranking, B was the preferred selection.

b) If the aggregate scores based on the matrix had been used, the results would have been:

Project	A	B	C	C
Society	196	201	194	189
Architect	301	370	343	327
Quantity Surveyor	409	361.5	375	398.5
Aggregate Score	906	932.5	912	914.5

The aggregated scores in fact show very little apparent difference in "judged quality". Although Project B scored highest, in fact it had very little edge over the others.

c) If the critical step of cost benefit were applied, dividing point score by cost, the result would have been:

Project	A	B	C	D
Score	906	932.5	912	914.5
Cost ($'000's)	628.6	685.5	642	692.6
Cost benefit points per $1,000 cost	1.44	1.36	1.42	1.32

In fact, Projects B, C and D offer less value per $, than Project A, which was also the low bid. Where results are this close, the low bidder should get the edge. In this case, although the Society selected B, A was insisted on by LPH.

Of the three proposal call projects where low bidder was not selected, the cost benefit formula would have indicated that an appropriate choice was made in two projects, but in the third, the choice was not fully justifiable.

DESIGN MODIFICATION DURING EVALUATION

Often, during any evaluation, a specific feature is noted in one proposal, which is not, but could be included in the other proposals. At issue is how does one deal with the possible inclusion and costing and evaluation of such items. There would appear to be two ways of handling this. During the evaluation, if there is a particular feature that the selection committee feels should be incorporated into a bid, one could assign a dollar cost to it, and add that to the construction bid price. Similarly, one would then adjust the points to assume that such an item is included. This system should only be used if there are one or two specific items to be adjusted, and one is certain that the proponent would provide the item at the estimated cost. If on the other hand, there are a number of design items that require adjustment, then it may be more appropriate for the lower two or three bids to be given a chance to re-submit, on the basis of the amended document requirements. There are inherent disadvantages with both of these approaches. However, they recognize a reality which often takes place during proposal call evaluation. Again, good judgement is required in such cases.

SUMMARY OF EVALUATION FRAMEWORK

The following steps should serve as the basis for any evaluation:

1. The Society should review the scoring system and weighting for the different elements and modify the weighting, as appropriate, to suit particular local circumstances.

2. Depending on whether a pre-qualification of developer/builder has taken place, a decision should be made whether this will form part of the actual matrix. If the proposal is land/building or just building, the appropriate matrix should be selected.

3. Each proposal should be evaluated against a checklist to ensure that all important minimum standards and other proposal call criteria are met. If there are any obvious deficiencies, depending on their nature, the proponent should be given a limited time period to clarify his proposal, revise it at no cost, or it should be rejected. Reviseable items are only those which do not materially affect the bid, such as provision of a third set of drawings, a missing signature, or a letter of reference.

4. Proposals should be evaluated by the various members of the Society and their consultants within the overall evaluation matrix.

5. The total score for each proposal should be divided by the price in order to develop a cost benefit index.

6. The projects offering the lowest price, and the best cost benefit index should identified. The award should be made to that submission which appears to offer the best cost benefit index, at the lowest price. If no clear winner can be identified, then an additional analysis should take place, with a particular view to identifying the specific incremental value features for the additional cost.

7. If the proposal call did not proceed on a pre-qualification basis, and if the builder capability is not part of the evaluation matrix, then the capability of the selected bidder should be confirmed as a final part of the selection.

The following are considered key items which should be included in the evaluation matrix. The precise weighting for each attribute and element, should be prepared by each Society, depending on its own requirements.

It is not possible to create an evaluation matrix which will serve for all projects. Similarly, it is unlikely that those experienced with the design and development of senior citizen housing could agree on the relative weightings for different categories of the evaluation and individual elements. With this in mind, the following list of items, and suggested weightings has been prepared. The following should be noted when reviewing the matrix:

1. The matrix presumes that totally unacceptable sites have been eliminated through a pre-qualification process. At the same time, it is likely that some sites are better than others. The proposed weighting reflects the importance of proper site selection.

2. Good site planning is difficult to prescribe. It is difficult establish minimum standards. The proposed weighting attempts to recognize the importance of combining good site selection and good site planning (42% of the total score), while recognizing the importance of the other design considerations.

3. In reviewing building design, it is assumed that certain minimum criteria (e.g. widths of hallways, size of amenity areas, etc.) will be specified. However, other aspects of a building design are difficult to prescribe, and therefore some subjective evaluation must take place. The framework attempts to identify the other key design considerations.

4. In terms of unit design, it is assumed that many of the specific design requirements are set out in the documents. The desired room sizes, furnishability, bathroom layouts, kitchen layouts, etc., can be clearly specified. However, in some instances, a proponent may desire to provide something in excess of the minimum standards, which in turn offers an additional benefit. Similarly, there are certain intangibles which can be subjectively analyzed.

5. Although the construction and maintenance category is given a relatively small overall weighting, this is not a reflection of its importance in terms of selecting the appropriate design. Rather, it reflects the fact that many of the specific requirements can in fact be set out in the proposal call documents. However, the scoring system attempts to recognize where required standards might be exceeded, with an accompanying benefit to the project.

6. The issue of builder capability is most difficult to evaluate and has been excluded from the matrix. One might argue that builders should be pre-qualified, as a part of the proposal call, or prior to carrying out the design evaluation. In practice, it is often difficult to make a judgement about a builder without knowing the relative benefits of his proposal in terms of design and cost. It is assumed that if a builder is totally unacceptable, then he will have been excluded.

EVALUATION MATRIX

Land and Building Proposal Call
(Assuming sites have been pre-qualified)
(Each element scored out of 10; 5 average, 10 excellent, 0 unacceptable)

Site Location	Weighting
relationship to community amenities (shopping, neighbourhood, etc.)	4
availability of support services (medical, churches, recreation, etc)	4
transportation	4
quality (views, vegetation, noise, etc.)	4
usability (size, grades, access, etc.)	3
suitability of zoning	2
services (sewer, water, etc.)	2
expansion potential	2
	25

Site Planning	
internal road layout and parking access	3
orientation to sun and views	4
compatibility with adjacent properties	2
compatibility with terrain	2
common amenities (recreation areas, etc.)	3
potential for individual gardens	2
landscaping	1
other (as appropriate)	3
	20

Building Design	
appropriateness of building form	3
design/efficiency of overall layout	2
lobby and hallways	3
design and location of amenity areas	3
maintenance and storage facilities	1
general appearance	5
other (as appropriate)	3
	20

	Weighting
Unit Design	
space utilization and furnishability	4
sun/view orientation	3
kitchen layout/cabinets	1
senior citizen/handicap features	2
storage/closets	1
balcony/patio	1
general feeling	5
other (as appropriate)	3
	20
Construction and Maintenance	
floor/wall sound separation	3
interior finishes	2
exterior finishes	2
roof construction	2
mechanical/electrical systems	2
site works, paths,drainage, snow clearing	2
construction schedule	2
	15
TOTAL	100

CHAPTER 7 - SUMMARY OF FINDINGS

The introduction of the proposal call as an alternative procurement technique has resulted in the development of a number of cost effective projects in British Columbia. Many of the problems which did arise, can be attributed to the constraints of time and the lack of direct experience on the part of certain LPH officials, the non-profit societies, and other consultants involved with the program. This resulted in less than adequate documentation in some cases, difficulties in the selection process, and a significant amount of extra and wasted effort on the part of the Societies, their consultants, LPH, and the construction and development industry.

Some of the problems could also be attributed to what appeared to be a decision to change horses in midstream. Certain projects started off with the Societies engaging, albeit informally, architects to proceed with full tender packages. Once the decision was made to go to a proposal call, it was sometimes difficult to change direction. This resulted in some of the hybrid situations which were encountered.

Some of the concerns expressed by the construction industry were well founded. In particular, in a number of instances, there was a great deal of wasted effort as up to 17 contractors prepared full proposal call packages. A form of pre-qualification as recommended, could have minimized this. Similarly, in some situations an excessive number of proposals were rejected, when in fact alternative means were available to deal with incomplete or unclear proposals.

In nearly all cases, the selection criteria were not clearly set out. As a result, it was difficult for the industry to fully understand the basis of selection. The inconsistencies between different calls within the same general region also caused difficulties for many smaller builders who had not had direct experience with proposal calls in the past.

A number of these problems were dealt with as LPH gained more experience with the proposal call.

1. In most instances, both the tender and proposal call procedures have resulted in good quality, relatively cost effective projects. While recognizing the wide range of building forms (from single storey cottages to nine storey concrete), there was no noticeable difference in terms of the quality features which would affect liveability, and long term maintenance and operating costs, between those projects developed through the design/build proposal calls, and those developed through the traditional tender.

2. In terms of cost per square foot on both a gross and net square foot basis, and cost per unit, the proposal call projects were less expensive than those developed through the design/tender. Tendered project costs were generally at or just below the maximum unit price, whereas the proposal call projects were often significantly below the applicable maximum unit price. The proposal call project costs corresponded with CHMC estimates for market costs; however, in five out of six cases, the tender project costs were in excess of the CHMC estimate for market cost for modest rental housing.

3. In the case of tendered projects, the higher costs were often attributable to relatively inefficient building forms, and building layouts. In addition, there were certain design details which added to the costs.

4. Although in most instances, the proposal call resulted in a cost effective building, proposal call documents were often inconsistent with one another, there were varying design guidelines and standards, varying procedures, poorly stated selection criteria, which resulted in a great deal of wasted time and effort, bad feelings between Societies and LPH, and criticism from the architectural and building industry. In a number of instances, the recommended procedures as set out in the LPH Manual were not followed, thus resulting in certain problems. At the same time, there is a need to modify some of the recommended procedures. In light of the foregoing, there is a need to prepare more standardized proposal call packages which can be used in the future.

5. There was considerable variation in the level of expertise within the various Societies. In some instances, the Society members were knowledgeable and able to exercise good judgement throughout the development process. In other situations, the Society had little development or construction expertise. Similarly, there was variation in the experience of the consultants acting on behalf of the Societies.

   Where the Societies had little expertise, they relied on "part-time" architects or quantity surveyors, the contractor, or the contractor's architect, or more often, LPH personnel for the necessary advice. In many instances, the Societies, and the projects, would have benefitted from additional project management services from the initial site selection stage, through construction, and the warranty period.

6. There is a particular concern about the adequacy of inspections for many of the projects, along with the broader question of liability for any defects in construction.

7. From discussions with LPH staff, and a review of the various project files, it would appear that the proposal calls placed more demands on LPH officials. However, many of these demands resulted from the relative inexperience of the Societies, their consultants, and LPH staff with proposal calls.

   For both proposal calls and tendered projects, LPH staff were often called upon to make decisions regarding development and construction matters with which they have had little previous experience.

8. A number of lessons can be learned from the experiences of other government agencies involved with non-profit housing, and the private sector. Whereas three basic procurement techniques have been used, consideration should be given to additional procedures, such as the modified tender call, and modified proposal call in the future.

9. The majority of the problems which were encountered, both in respect of tenders and proposal calls, could be overcome in the future by modifications to the procedures set out in the Manual, standardized design guidelines and specifications, standardized proposal call documents, and additional expertise available to LPH, and the sponsoring Societies.

10. There is a need to continue to consider different procurement techniques for different circumstances. The selection of the appropriate technique will depend on the expertise available to the Society, the particular circumstances of the project (e.g. new project or addition), the particular site constraints, land availability, and the state of the construction industry and bidding climate at the time of the project.

In addition to problems associated with the proposal calls, there were a number of problems associated with tender calls. In a few instances, the costs nearly exceeded the applicable MUP's, often due to inefficient project design and inappropriate specification of materials and construction systems. In a number of instances, there was an inappropriate site selection and poor choice of building form for tendered projects. Specific design features for the elderly were often overlooked, and change orders and cash allowances were poorly administered at times.

Conclusion

In summary, the future success of the program will depend on combining the best features of the traditional design tender, with those of a proposal call. From the review, it is apparent that under certain circumstances, different procurement techniques are appropriate. The choice of procurement technique should depend upon many factors including: the design and technical expertise available; the experience of and resources available to the Society; the availability of building sites; whether it is a new project or addition to an existing project; the number of unique design requirements dictated by owner's needs or land constraints; the nature and composition of the building industry in a particular location; the bidding climate at the time a decision is made to proceed with the project.

There is a need for improved standards and guidelines and development procedures for all projects, whether tenders or proposal calls. Both systems can have application under particular circumstances. In addition, there are some lessons which can be learned from the experiences of other agencies in other parts of Canada, and the private development industry. The modified proposal call, or negotiated tender call are two procurement techniques which could have application under certain circumstances. Similarly, the turnkey system could also be considered in the future. The key objective should be a good fit between the project circumstances and the selected procurement technique, resulting in housing which meets well established design requirements and specifications at the lowest cost.